# CLAY COUNTY, MISSOURI POSTRETIREMENT INSURANCE

**GASB 45 Information** 

FOR

FISCAL YEAR ENDING DECEMBER 31, 2014

Based on A Valuation Date of January 1, 2014

**APRIL 2015** 



LEWIS & ELLIS, INC. OVERLAND PARK, KS

#### Dallas

Glenn A. Tobleman, F.S.A., F.C.A.S. S. Scott Gibson, F.S.A. Cabe W. Chadick, F.S.A. Michael A. Mayberry, F.S.A. David M. Dillon, F.S.A. Gregory S. Wilson, F.C.A.S. Steven D. Bryson, F.S.A. Bonnie S. Albritton, F.S.A. Brian D. Rankin, F.S.A. Wesley R. Campbell, F.S.A., F.C.A.S. Jacqueline B. Lee, F.S.A. Xiaoxiao (Lisa) Jiang, F.S.A. Robert B. Thomas, Jr., F.S.A., C.F.A.



**Kansas City** 

Gary L. Rose, F.S.A.
Terry M. Long, F.S.A.
Leon L. Langlitz, F.S.A.
D. Patrick Glenn, A.S.A., A.C.A.S.
Christopher H. Davis, F.S.A.
Karen E. Elsom, F.S.A.
Jill J. Humes, F.S.A.
Christopher J. Merkel, F.S.A.
Kimberly S. Shores, F.S.A.
Michael A. Brown, F.S.A.
Jan E. DeClue, A.S.A.
Patricia A. Peebles, A.S.A.
Thomas L. Handley, F.S.A. (Of Counsel)

London/Kansas City

Timothy A. DeMars, F.S.A., F.I.A. Roger K. Annin, F.S.A., F.I.A. Scott E. Morrow, F.S.A., F.I.A.

### **Baltimore**

David A. Palmer, C.F.E.

April 15, 2015

Clay County, Missouri
Ms. Laurie Bonk
Assistant County Administrator - Finance & Administrative Services
1 Courthouse Square
Liberty, MO 64068

Dear Ms. Bonk:

This report presents actuarial information in accordance with Governmental Accounting Standards Board Statement No. 45 ("GASB 45") regarding the health insurance benefits available to retirees of Clay County ("County"). The purpose of this report is to:

- Present information that provides a basis for disclosure on the financial statements for the fiscal year ending December 31, 2014; and
- Determine the Annual OPEB Cost for the fiscal year beginning January 1, 2014.

The valuation has been conducted in accordance with generally accepted actuarial principles and practices. Employee data, plan information and claim experience were furnished by the County and its vendors. The data provided has been reviewed for reasonableness, but no attempt has been made to audit such information. The valuation is based on the provisions of the plan as of the time of the completion of this valuation study. Each actuarial assumption used in this valuation represents reasonable expectations of future experience.

The undersigned is a member of the American Academy of Actuaries and the Society of Actuaries and meets their qualification standards to render the actuarial information contained herein.

Respectfully submitted,

strick Ille

LEWIS & ELLIS, INC.

Patrick Glenn, ASA, ACAS, MAAA, CPA (inactive)





# TABLE OF CONTENTS

	PAGE
SUMMARY	1
ANNUAL OPEB COST FOR 2014	4
DISCLOSURE INFORMATION	5
SUMMARY OF PARTICIPANT DATA	7
SUMMARY OF PLAN PROVISIONS	9
EXPECTED COST BY AGE	12
ACTUARIAL ASSUMPTIONS	13
ACTUARIAL METHODS	17
GLOSSARY	19

### **BACKGROUND**

The valuation procedures noted below and information presented in this report are based on provisions underlying GASB 45. The provisions of GASB 45 stipulate that retiree benefits are based on age-adjusted costs. The excess of expected costs by age less retiree contributions equals the employer "benefit" that forms the basis for the valuation. The amount of annual expense accrual under GASB is equal to the Annual OPEB Cost. The offsetting liability, called the Net OPEB Obligation, is reduced by the amount of employer benefits provided during the year.

#### VALUATION PROCEDURES

The financial information for fiscal year 2014 is based upon an actuarial valuation performed as of January 1, 2014 using the participant census as of January 1, 2014. The previous valuation was performed as of January 1, 2012, using the participant census as of January 1, 2012. Updated valuations are required every two years unless a material change occurs. Financial results for interim years are based on the prior "full" valuation.

### SUBSTANTIVE PLAN

The County offers medical, prescription drug, dental and vision insurance to qualifying retirees and their dependents. Qualifying retirees are those terminating employees who apply for retiree health insurance coverage and have rendered at least 5 years of service. Retirees may continue coverage with the County by paying the plan premium that applies to the group insurance program. Medical / Rx coverage is available to Medicare eligibility with lifetime coverage for Dental & Vision. The benefits that are valued exist as an indirect or implicit subsidy since retirees do not contribute the full age-based cost.

### **FUNDING OF BENEFITS**

Benefits are paid from general operating funds of the County. The arrangement does not qualify as an "OPEB Plan" under GASB requirements and thus the assets may not be reported as an offset to GASB liabilities. GASB 45 requires a valuation interest rate (or discount rate) be used to calculate the present value of expected future benefits. Irrespective of whether a qualifying OPEB plan exists, the valuation interest rate should equal the estimated long-term investment yield on the source of assets used to provide for benefits. Based on analysis of long-term experience of comparable asset classes anticipated to be held by the County, results are shown assuming a return at 3.5%.

### RESULTS

The Annual OPEB Cost is a charge of \$148,066 for fiscal year 2014. The Actuarial Accrued Liability (AAL) as of January 1, 2014 is \$1,193,712. Using the prior valuation parameters and assumptions, the projected AAL as of January 1, 2014 was \$1,185,000.

Annual OPEB Cost consists of the Annual Required Contribution (ARC) and the Interest and ARC Adjustments. The ARC equals the Normal Cost plus amortization of the Actuarial Accrued Liability (AAL). The Normal Cost is the amount of the Actuarial Present Value of benefits allocated to the current year as determined under the applicable actuarial cost method. The amount of AAL is the portion of the Actuarial Present Value allocated to all prior years. The actuarial cost method is a procedure to allocate present value costs to different time periods. The projected unit credit actuarial cost method has been utilized for allocation. This same method was utilized for the prior valuation.

We have used a 30 year amortization of the AAL (based on level % of pay) to produce the expense. Thirty years is the maximum allowable number of years for amortizing the AAL. While only a portion of the AAL is currently recognized, the full amount of AAL must be disclosed. The Actuarial Present Value is shown for informational / instructional purposes only; it is not required to be disclosed or recognized.

The actual AAL may differ from expected due to plan changes, assumption changes, experience gains and/or losses, and valuation method changes.

The turnover, retirement and disability rates were updated to reflect the latest statistics available from LAGERS pension valuations. The mortality assumption was revised to the SOA 2014-RPH Total Dataset Mortality table with Scale MP-2014. The County switched from a fully insured program to a modified cost-plus arrangement effective January 1, 2014 for Medical / Rx. Dental remains fully insured. Future retirees are assumed to elect the same plan option (HMO, PPO or High Deductible) as elected today as an active.

### **FUTURE REPORTING**

The next updated valuation is required to cover fiscal years 2016 and 2017 and should be based on a valuation date of January 1, 2016. The Annual Required Contribution for interim year 2015 will remain at \$153,188 but the Annual OPEB Cost will change. After the implementation year, the Annual Required Contribution (ARC) and Annual OPEB Cost do not equal due to two adjustments. These are the interest cost and the ARC adjustments. The Net OPEB Obligation at any point in time equals the accumulated Annual OPEB Cost minus accumulated net employer contributions since implementation of GASB 45. The net employer contributions should equal retiree insurance costs (claims + administrative costs) less premiums received from retirees.

Based on the current valuation, the expected net employer contributions for 2015 are shown below. The expected amount includes projected future retirements.

		<u>2015</u>
A.	Expected Retiree Costs	\$156,000
В.	Expected Retiree Contribution Premiums	<u>\$100,000</u>
C.	Expected Net Employer Contributions (A-B)	<u>\$ 56,000</u>

# **ANNUAL OPEB COST FOR 2014**

A.	Actuarial Present Value of Benefits Current Retirees Future Retirees	308,094 1,915,711 2,223,805
В.	Actuarial Accrued Liability Current Retirees Future Retirees	308,094 <u>885,618</u> 1,193,712
C.	OPEB Plan Assets	
D.	Unfunded Actuarial Accrued Liability (B – C)	1,193,712
E.	Amortization Factor (Based on 30 Year Open – Level % of Pay)	21.51933
F.	Amortization of Unfunded	57,413
G.	Normal Cost	95,775
H.	Annual Required Contribution (ARC) (F+G)	153,188
I.	Net OPEB Obligation at Beginning of Year	446,537
J.	Interest on Net OPEB Obligation to end of year (I x .035)	15,629
K.	Adjustment to the ARC (I / E)	20,751
L.	Annual OPEB Cost (H+J IK)	<u>148,066</u>
M.	Valuation Interest Rate	3.50%
N.	Measurement Date	January 1, 2014
O.	Aggregate Payroll Growth Per Year	1.00%

# **DISCLOSURE INFORMATION**

# 1. Annual OPEB Cost for 2014

A. Normal Cost	95,775
B. Amortization of Unfunded Actuarial Accrued Liability	57,413
C. Annual Required Contribution (with interest)	153,188
D. Interest on Net OPEB Obligation	15,629
E. Adjustment to the ARC	20,751
F. Annual OPEB Cost (C + D – E)	148,066

# 2. Employer Contributions for 2014

A. Expected Costs	154,000
B. Expected Retiree Contributions	103,000
C. Expected Employer Contributions (A - B)	51,000

### 3. Schedule of Employer Contributions

Fiscal Year Ending December 31

Year Ending	Annual OPEB Cost	Employer Contributions	Percentage Contributed	Net OPEB Obligation
2008	70,852	6,000	8.47%	64,852
2009	69,840	6,000	8.59%	128,692
2010	132,165	43,000	32.5%	217,857
2011	132,165	58,000	43.9%	292,022
2012	128,218	48,000	37.4%	372,240
2013	127,297	53,000	41.6%	446,537
2014	148,066	51,000	34.4%	543,603

# 4. Net OPEB Obligation at 12/31/2014

A. Balance at 12/31/2013	446,537
B. Annual OPEB Cost for 2014	148,066
C. Employer Contributions for 2014	51,000
D. Balance at 12/31/2014 (A + B - C)	543,603

# 5. Schedule of Funding Progress

	(a)	(b)	(b-a)	(a/b)	(c)	((b-a)/c)
Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded AAL (UAAL)	Funded Ratio	Covered Payroll *	UAAL as a Percent Of Covered Payroll
1/1/2008	0	555,571	555,571	0%	20,000,000	2.78%
1/1/2010	0	1,091,200	1,091,200	0%	17,948,508	6.08%
1/1/2012	0	1,047,243	1,047,243	0%	18,566,639	5.64%
1/1/2014	0	1,193,712	1,193,712	0%	20,106,228	5.94%

<sup>\*</sup> Annualized pay of active employees as of the valuation date.

# 6. Valuation Parameters

Actuarial Valuation Date	January 1, 2014	
Actuarial Cost Method	Projected Unit Credit	
Amortization Method	Level Percent of Pay, Open	
Remaining Amortization Period	30 years	
Asset Valuation Method	Not Applicable	
Valuation Interest Rate (assumed investment return)	3.50%	
Projected Salary Increases	Not Applicable	
Inflation Rate (not used directly)	2.50% (Reasonable in conjunction with other assumptions)	
Aggregate Payroll Growth	1.00%	

Data on participants electing coverage was provided by the County. A summary of participants for the current and prior valuation is presented here.

Participant Summary	January 1, 2012	<b>January 1, 2014</b>
Active – General	385	390
Active - Police	122	132
Retirees ( < Age 65)	12	12
Retirees (≥ Age 65)	14	17
Spouses of Retirees	_10	_9*
Total	<u>543</u>	<u>560</u>
* Includes 1 surviving spouse subscriber		
Average Age of Actives	45.2 years	46.4 years
Average Service of Actives	9.2 years	9.4 years
Average Age of Retirees (pre-65 only)	60.6 years	62.8 years
Average Age of Retirees (all)	66.7 years	66.8 years

### Medical Subscribers as of January 1, 2014

Coverage Tier	Actives	Pre-65 Retirees	Total
Single	183	8	191
EE+SP	63	2	65
EE+CH	83	0	83
Family	90	0	90
Waived	103	2	105
Total	522	12	534

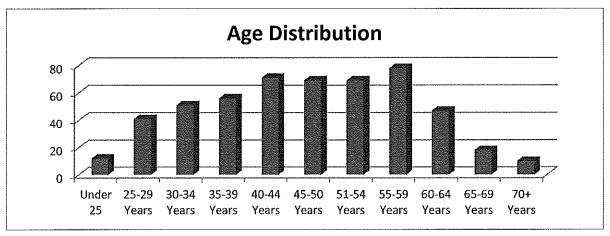
Plan Option	Actives	Pre-65 Retirees	Total
HMO	177	7	184
PPO	80	0	80
High Ded.	162	3	165
Waived	103	2	105
Total	522	12	534

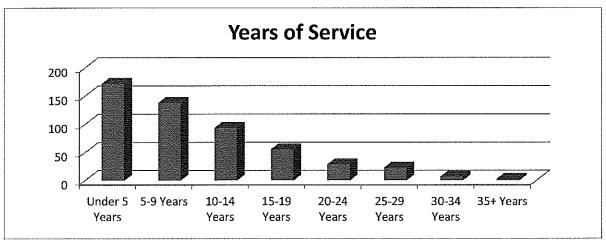
# Dental Subscribers as of January 1, 2014

Coverage Tier	Actives	Retirees	Total
Single	442	28	470
Waived	80	2	82
Total	522	30	552

# **Distribution of Active Participants**

	**************************************		Years	of Service	e as of Ja	nuary 1, 2	014		
Age	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
Under 25	12								12
25-29	24	17							41
30-34	22	21	8						51
35-39	18	16	14	8					56
40-44	20	18	10	16	7				71
45-49	21	14	16	6	7	5			69
50-54	18	17	8	8	5	10	2	1	69
55-59	20	17	15	12	3	7	3	1	78
60-64	12	13	11	3	5	1	2		47
65-69	1	4	9	2	1			1	18
70+	4	1	3	1	1				10
Total	172	138	94	56	29	23	7	3	522





Clay County, Missouri (the County) offers medical, dental and vision insurance coverage to its employees (and their dependents) during retirement. A summary of the provisions of the health insurance program utilized in completing this study is presented below.

### **ELIGIBILITY**

- \* Elects "retiree" health insurance upon termination, and has rendered at least 5 years of service with the County.
- \* An employee who waives participation in the County's health insurance program at the time of retirement (or during any subsequent open enrollment) is not eligible to participate at a later date.
- \* Eligibility under the substantive plan is deemed to be based on eligibility for LAGERS. LAGERS Pension Benefit Eligibility for County employees is shown below.

	Pension Eligibility				
	Unreduced	Reduced Early			
Category	Retirement	Retirement			
General	60 & 5	55 O-5			
Employees	Rule of 80*	55 & 5			
Police	55 & 5	50.9.5			
Employees	Rule of 80*	50 & 5			

<sup>\*</sup> The County has not elected Rule of 80.

### RETIREE PREMIUM CONTRIBUTIONS

Participants must contribute one hundred percent (100%) of the carrier premium to maintain coverage. The monthly amounts utilized as a starting point for the valuation are presented below. These contributions are assumed to increase in the future at the same rate as age-adjusted expected costs. Actual premium rates (i.e. 2014 and 2015 rates) were used when available.

2014 and 2015 Rates						
	Single	Spouses (3)				
Medical / Rx (1)						
НМО	617.66	679.44				
PPO	617.64	649.40				
High Deductible	404.48	445.00				
Dental (2)	31.08	30.56				

- (1) 2015 rates did not change from 2014.
- (2) 2014 only. 2015 rates increased 5% over 2014.
- (3) Spousal contribution premiums equal 102% of the single premium when Cobra coverage applies.

### **BENEFITS**

The group insurance program of the County is provided through a modified cost-plus arrangement for Medical / Rx and a fully insured plan for Dental. Under a modified cost-plus arrangement the County pays the claim charge (using carrier factors times enrollment) plus an administrative fee that includes stop-loss charges. If the actual claim experience (net of stop-loss coverage) is better than expected, the County will receive reimbursement equal to the excess of expected over actual. The specific stop-loss limit is \$150,000.

Three medical plan options (HMO, PPO and a High Deductible Plan) are available to retirees. Plan benefits renew on a calendar year basis. Coverage parameters are the same as those available to active employees.

Effective January 1, 2011, Medical / Rx coverage is no longer available to retiree / spouse participants on Medicare. Retirees may elect Dental and Vision coverage for life.

Medical / Rx Plan Design Summary (2015 Plan Year) (in Network)

	Blue Care HMO	Preferred Blue PPO	Preferred Care Blue BlueSaver		
<b>Deductible</b> Individual / Family	N/A	N/A \$1,000 / \$2,000 \$2			
Coinsurance Plan Pays (after deductible)	100%	80%	90%		
Out of Pocket Individual / Family	N/A	\$5,250 / \$10,500	\$4,000 / \$8,000		
Office Visit Copays PCP / Specialist	\$35 / \$70	\$40 / \$40	Deductible & Coinsurance		
Emergency Room	\$200	\$75 + Deductible & Coinsurance	Deductible & Coinsurance		
Wellness Benefit		100% Covere	ed		
Prescription Drugs - Retail					
Tier 1 Tier 2	\$15 Copay \$45 Copay				
Tier 3	\$70 Copay Mail Order = 2x Retail				
Lifetime Maximum	Unlimited				

# SUMMARY OF PLAN PROVISIONS (CONTINUED)

# BENEFITS (continued)

# Dental Plan Design Summary (2015 Plan Year)

Deductible - Individual / Family	\$25 / \$75
Preventative & Diagnostic	100%
Basic	80%
Major	50%
Annual Maximum	\$1,500

The benefit that is valued under GASB 45 equals the age-adjusted cost (sample ages shown below) less the retiree contribution premium. GASB 45 requires age be taken into account when determining the expected cost applicable to coverage during the retirement. Age-adjusted costs are the estimated costs that would result if a credible-size group of like-age participants was measured.

### **Implicit Subsidy**

If retirees were detached and rated separately based on a similar age distribution of a credible size group, the applicable cost would be higher than a cost determined based on the combined active/retiree group. Thus, even when retirees pay the full group plan premium rate, an indirect benefit (or "implicit subsidy") may still exist. This is the implicit rate subsidy that must be valued and recognized under GASB 45. Over time, if retirees weren't covered by the County, the average realized cost per member would be lower and thus the portion of the plan premium paid directly by the County on behalf of actives would be lower.

### **Analysis**

We evaluated medical / Rx claims experience from July 2012 to December 2014 and studied the detail of the 2014 and 2015 cost-plus renewals and plan design. Credible cost relativities weighted by the current age distribution of the County were applied to per member per month expected costs to determine age-adjusted costs. Retiree industry experience was also evaluated and given weight. We factored in administrative costs, stop-loss premiums and ACA fees. For Dental we also studied plan experience and determined age-adjusted premiums.

Age-adjusted costs during 2014 are shown below on a <u>per member per month</u> basis at sample ages. These costs less retiree contributions serve as the employer costs (or "retiree benefit") that is valued.

### Retiree Costs during 2014

Age	нмо	PPO	High Deductible	Dental
55	689	651	518	47
62	887	837	662	50
64	937	884	698	51
65				52
70				54
75				56

- A. Valuation Interest Rate
- 3.50% per annum

B. Valuation Date

January 1, 2014

C. Medical/Rx Cost Inflationary Trend

Trend
7.00%
6.75%
6.50%
6.25%
6.00%
5.75%
5.50%
5.25%
5.00%

Actual retiree premium rates and admin rates were used for 2015.

D. Dental Cost Trend

- 3.50% (Actual retiree premium rates used for 2015)
- E. Medical Plan Participation

Future retirees are assumed to elect the same plan as currently electing. Currently waiving employees are assumed to elect based on the current group distribution to account for the possibility of "jumping back in". Actual plan elections were valued for current retirees.

F. Healthy Life Mortality

SOA RPH-2014 Total Dataset Mortality Table with Scale MP-2014 Full Generational Improvement.

G. Participation in Coverage with the County for Retirees

Twenty percent (25%) of future retirees who are eligible for health insurance are assumed to elect medical and dental coverage upon retirement. This is based on County experience from 2008 to 2014.

# H. Duration of Coverage

Medical coverage is assumed to end at Medicare eligibility and Dental coverage is assumed to continue for life.

### I. Turnover Incidence

Assumed turnover rates are based on rates used for the LAGERS pension actuarial valuation. Turnover rates are not applied when retirement eligibility is achieved. Illustrations of annual rates of turnover are shown below at sample ages and levels of service:

Police					
		Year	rs of Serv	vice	
<u>Age</u>	<u>0-1</u>	1-2	<u>2-3</u>	<u>3-4</u>	<u>4-5</u> .12
All Ages	.18	.17	.16	.13	.12
		Years	of Servic	e > 5	
<u>Age</u>			Rate		
25			.101		
30			.080		
35			.061		
40			.047		
50			.018		

	General					
			`	Years of Serv	rice	
<u>Gender</u>	<u>Age</u>	0-1	1-2	<u>2-3</u>	<u>3-4</u>	<u>4-5</u>
Male	All Ages	.18	.16	.14	.11	.09
Female	All Ages	.21	.20	.16	.13	.12

	Years of	Years of Service > 5				
<u>Age</u>	Male	<u>Female</u>				
25	.075	.107				
30	.065	.094				
35	.051	.072				
40	.038	.055				
50	.024	.034				

### J. Retirement Age

Assumed rates are based on those used for the LAGERS pension actuarial valuation. Retirement rates project the annual probability of retiring for eligible employees.

		General Members		
	Age(s)	Men	Women	Police
	50-54	N/A	N/A	0.030
	55-56	0.025	0.030	0.100
,	57	0.025	0.030	0.100
	58-59	0.025	0.030	0.100
	60	0.100	0.100	0.100
No Dulo of 90	61	0.100	0.100	0.100
No Rule of 80	62	0.250	0.150	0.250
	63	0.250	0.150	0.200
	64	0.200	0.150	0.200
	65	0.250	0.200	1.000
	66	0.250	0.250	
	67-68	0.200	0.200	]
	69	0.200	0.150	]
	70+	1.000	1.000	

### K. Disability Incidence

None

### L. Future Spousal Participation

Forty percent (40%) of future participating retirees are assumed to have a covered spouse during retirement. This is based on coverage tier elections of the current census. Actual spouse elections were valued for spouses of current retirees.

M. Age Difference for Covered Spouses Males are assumed to be 3 years older than their female spouses.

### N. Spousal Cobra Coverage

Upon retiree death (or attainment of age 65 for Medical), fifty percent (50%) of participating spouses are assumed to elect Cobra coverage. However, no Cobra coverage is assumed beyond age 65 for Medical.

# **ACTUARIAL ASSUMPTIONS (CONTINUED)**

O. Medicare Eligibility Age

Age 65

P. Timing of Premium Payments

Mid-Year

Q. Non-Spouse Dependents

None

R. Aggregate Payroll Growth

1% per year

S. Implied Inflation Rate

The valuation process does not directly utilize an explicit inflation rate assumption to build the trend assumptions. An estimated inflation rate that is reasonable in conjunction with the trend assumptions is 2.50%.

### A. POPULATION VALUED

The valuation is based on a closed group. Current employees and covered retirees as of the valuation date of January 1, 2014 are considered; no provision is made for future new hires.

### B. ACTUARIAL COST METHOD -- PROJECTED UNIT CREDIT

The actuarial calculations were performed in accordance with the Projected Unit Credit Actuarial Cost Method as allowed under GASB 45.

- Benefits are projected and the actuarial present value is determined for each individual
  included in the actuarial valuation. Benefits are deemed to be earned over the period from
  date of hire to expected decrement and the actuarial present value is allocated as follows:
  - a. all valuation years preceding the valuation date;
  - b. the current valuation year; and
  - c. all subsequent valuation years.
- The sum of the actuarial present values of benefits allocated to the current valuation year for all individuals is the Normal Cost for the valuation year.
- The sum of the actuarial present values of benefits allocated to all valuation years preceding the valuation date is the Actuarial Accrued Liability (AAL). The excess of the AAL over the actuarial value of plan assets is the Unfunded AAL.

### C. AMORTIZATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY

The amortization of the Unfunded AAL is calculated on a level percent-of-pay, open-period amortization basis over 30 years.

### D. ANNUAL REQUIRED CONTRIBUTION (ARC)

The sum of the Normal Cost and the amortization of the Unfunded AAL comprise the ARC.

### E. ANNUAL OPEB COST

The Annual OPEB Cost equals the Annual Required Contribution when reporting for the GASB 45 implementation year. After the implementation year, the Annual OPEB Cost consists of the following components:

- (i) Annual Required Contribution (ARC)
- (ii) Interest on the Net OPEB Obligation
- (iii) Adjustment to the ARC

### F. ACTUARIAL VALUE OF ASSETS

As of the date of this valuation, it is our understanding there are no plan assets as recognized under GASB rules. The cost of group plan benefits (including retiree benefits) are paid as they come due from general operating funds of the County.

### G. CALCULATION OF PRESENT VALUES

Using the actuarial assumptions, the number of retired participants is projected each year in the future. Costs are projected for each future year at each age using the trend and aging assumptions. The projected costs less projected retiree contributions are multiplied by the expected number of retirees in each future year to produce expected benefits payments. These payments are then discounted using the valuation interest rate to determine the present value of the projected liabilities.

The actuarial calculations reflect a long-term perspective that involves estimates of reported amounts and assumptions about the probability of events far into the future. Actuarially determined amounts are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future.

The actuarial calculations are based on the substantive plan and pertinent law as they exist at the time of the preparation of this valuation study. The substantive plan is the plan that operates in practice. Actuarial Accrued Liability (AAL). That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of plan benefits which is allocated to periods prior to the valuation date.

**Actuarial Cost Method.** A procedure for allocating the Actuarial Present Value of plan benefits to time periods, usually in the form of a Normal Cost and Actuarial Accrued Liability.

Actuarial Present Value. The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of actuarial assumptions, and plan provisions. Actuarial Present Value takes into account the probability of payment as well as the time value of money.

Adjustment to the ARC. An adjustment made to Annual OPEB Cost to avoid double counting of the Amortization of the AAL when full funding of the ARC does not occur.

**Age-Adjusted Cost.** The projected cost that would result if a credible-sized group of like-age participants were measured.

**Age-Subsidy.** The difference between the age-adjusted cost and the plan premium. An age-subsidy may occur because the plan premium, based on the combined pool of actives and retirees, is lower than the age-adjusted cost at retiree ages.

Amortization Payment. That portion of the Annual Required Contribution that is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

**Annual OPEB Cost.** The amount of expense an employer must recognize under accrual accounting in accordance with a Defined Benefit OPEB Plan, calculated in accordance with the parameters.

Annual Required Contribution (ARC). The portion of expense an employer must recognize in accordance with a Defined Benefit OPEB Plan equal to the Amortization Payment plus the Normal Cost, calculated in accordance with the assumptions and plan provisions.

**Defined Benefit OPEB Plan**. An OPEB plan having terms that specify the amount of benefits to be provided at a future date or after a certain period of time. The amount specified usually is a function of one or more factors such as age and years of service.

Employer Contribution. If self-funded, the contribution equals retiree claims plus admin costs, less any retiree contribution premiums. If not self-funded, the contribution equals age-adjusted premium costs, less any retiree contribution premiums. An employer may also make contributions through an irrevocable transfer of assets to a qualifying trust.

Healthcare Cost Trend Rate. The rate of change in per capita health claims cost over time as a result of factors such as medical inflation, utilization of healthcare services, plan design and technological developments.

**Net OPEB Obligation**. The cumulative difference since the effective date of GASB 45 between the amount of Annual OPEB Cost and Employer Contributions. This is the liability required to be recognized under accrual accounting.

**Normal Cost.** That portion of the Actuarial Present Value of OPEB plan benefits that is allocated to a valuation year by the Actuarial Cost Method.

Other Postemployment Benefits (OPEB). Postemployment benefits other than pension benefits. OPEB includes Postemployment Healthcare Benefits, regardless of the type of plan that provides them, and all post-employment benefits provided separately from a pension plan, excluding benefits defined as termination offers and benefits.

Postemployment Healthcare Benefits. Medical, dental, vision and other health-related benefits provided to retired employees and their dependents and beneficiaries.

Substantive Plan. The terms of the OPEB plan as understood by the employer and plan members.

Unfunded Actuarial Accrued Liability. The excess, if any, of the Actuarial Accrued Liability over the assets of the plan.

Valuation Interest Rate (or Discount Rate). The expected long-term rate of return on the source of assets used to pay retiree insurance benefits.